

REMARKS

I. Introduction

In the Office Action, claims 1-46 have been examined. The Examiner withdraws the indication of allowability of claims 7, 10, 15, 19, 26 and 30-33, in view of newly applied references: Takata, U.S. Patent No. 5,631,682 (hereinafter "Takata"); Shinada et al., U.S. Patent No. 5,790,158 (hereinafter "Shinada"); Miyazawa, U.S. Patent No. 5,633,667 (hereinafter "Miyazawa"); and Matsuzaki et al., U.S. Patent No. 6,416,152 (hereinafter "Matsuzaki").

Thereafter, claims 18, 20-25, 34, 36 and 38-44 are allowed. Furthermore, the Examiner objects to claims 9, 13, 17 and 27-29 as being dependent upon a rejected based claim, but the Examiner indicates that claims 9, 13, 17 and 27-29 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Additionally, the Examiner rejects claims 1-8, 10-12, 14-16, 19, 26, 30-33, 35, 37 and 45-46.

Because of errors in the Office Action, Applicants' representatives conducted a telephone conference with the Examiner on March 18, 2003. During this conference, the Examiner acknowledged that claims 1, 3-8 and 10-12 **are not** rejected under 35 U.S.C. § 102(b) based upon a public use or sale of the invention. Instead, the Examiner indicated that claims 1, 3-8 and 10-12 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Takata. Additionally, the Examiner indicated that claim 16 **is not** rejected under 35 U.S.C. § 102(b) as being anticipated by Takata.

Thus, based on the Examiner's clarifications, the Examiner's intended rejections of the claims are as follows. Claim 16 stands rejected under 35 U.S.C. § 112, second paragraph.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/698,143
Attorney Docket No. Q60866

Additionally, claims 1, 3-8 and 10-12 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Takata. Claim 14 stands rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Ishinaga et al., U.S. Patent No. 6,336,719 (hereinafter "Ishinaga"). Furthermore, claims 14-16 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Shinada. Claims 19, 26, 30-33, 35, 37 and 45-46 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Matsuzaki. Claim 2 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takata in view of Miyazawa.

Applicants overcome the rejections of claims 14-16, 19, 26, 30-31 and 37 and traverse the rejections of claims 1-8, 10-12, 32-33, 35 and 45-46 as follows.

II. Allowable Subject Matter

Claims 18, 20-25, 34, 36 and 38-44 are allowed. Furthermore, the Examiner acknowledges that claims 9, 13, 17 and 27-29 contain allowable subject matter. In particular, the Examiner objects to claims 9, 13, 17 and 27-29 as being dependent upon a rejected base claim, but indicates that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Furthermore, the Examiner identifies various novel features of the claimed invention in providing his Reasons for Allowance. Applicants respectfully submit that the Examiner's reasons represent exemplary reasons for allowing the claims, and that each allowable claim, as a whole, is patentable based on the entirety of the features recited therein.

III. Claim Rejections -- 35 U.S.C. § 112, Second Paragraph

Claim 16 stands rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner asks whether the ink chamber is different from the internal space of the container body, as recited in claim 16?

The ink chamber of claim 16 is different from the internal space of the container body of claim 16. It may assist the Examiner's understanding to refer to Fig. 13. For example, an internal space of the container body 51 can be divided into two areas 53a and 53b, which are isolated from one another by wall 54. Each of areas 53a and 53b can serve as a distinct ink chamber. Thus, when ink in a first divided chamber is consumed or the effective date of the ink in the first divided chamber expires after use thereof is started, (reserve) ink in the second divided chamber can be supplied into an ink recording head, for example, by re-inserting the ink cartridge in the opposite direction to switch the ink supplying chamber.

Thus, as recited in claim 16, an ink chamber is a sub-area of the internal space of the container body.

Applicants submit that claim 16 is sufficiently definite under § 112, second paragraph, and respectfully request that the Examiner withdraw the rejection of claim 16 under § 112, second paragraph.

IV. Claim Rejections -- 35 U.S.C. § 102(b)

Claims 1, 3-8 and 10-12 stand rejected under § 102(b) as allegedly being anticipated by Takata.

Claim 1

The Examiner alleges that Takata discloses each and every feature of claim 1. In particular, the Examiner alleges that the spacer 32 of Takata corresponds to the spacer recited in Applicants' claim 1. Applicants respectfully disagree. For example and not by way of limitation, the spacer of claim 1 requires a base portion which faces the lid member and a pressing portion for pressing said ink absorbing member toward said ink supply port.

Conversely, in Takata, the spacer 32 serves to smooth the introduction of atmospheric air into the foam member 30 (Takata: col. 4, lines 10-12). Indeed, Takata does not disclose that the spacer 32 includes a "pressing portion for pressing said ink absorbing member toward said ink supply port", as recited in claim 1. Instead, Takata discloses that a lid 24 includes an inwardly projecting portion 40 for depressing the foam unit 22 (Takata: col. 4, lines 27-30; col. 5, lines 40-45; and Fig. 1). As shown in Fig. 3 of Takata, the spacer 32 has open areas between bar members 33 for allowing the projecting portion 40 of the lid 24 to project through the spacer 32.

Furthermore, the spacer 32 and the foam member 30 are sealed together by a film 34 (to form the foam unit 22) prior to insertion into the foam storing case 20. Thus, as illustrated in Fig. 5 of Takata, the foam unit 22 is only pressed by projecting portions 28 and 40, and not by any portion of the spacer 32.

Additionally, the Examiner fails to indicate how the spacer 32 of Takata includes a base portion and a pressing portion, beyond alleging that the bottom of the spacer 32 discloses a pressing portion.

For at least the exemplary reasons set forth above, Applicants traverse the rejection of claim 1 as allegedly being anticipated by Takata.

Claims 3-8 and 10-12

In view of the exemplary deficiencies of Takata, as set forth above, claims 3-8 and 10-12 are not anticipated by Takata at least by virtue of their dependency.

V. Claim Rejections -- 35 U.S.C. § 102(e)

Claim 14

Claim 14 stands rejected under § 102(e) as allegedly being anticipated by Ishinaga. The Examiner relies on Fig. 2 of Ishinaga in alleging that Ishinaga discloses each and every feature of claim 14. Applicants respectfully disagree.

For example and not by way of limitation, claim 14 recites that "an internal space of said container body is divided into a plurality of areas by walls", "at least one of said areas stores ink and at least one of said areas is isolated from the stored ink", and "only said at least one of said areas storing ink is provided with said ink supply port and said ink absorbing member". The Examiner alleges that Fig. 2 of Ishinaga discloses the features of claim 14.

Ishinaga illustrates an ink tank cartridge divided by a partition wall 111 into a negative pressure generating receiving portion 101 and an ink containing portion 103 (Ishinaga: Fig. 2).

However, these two portions are in direct communication with one another via communication channel 110 in the partition wall 111 (Ishinaga: Fig. 2). Thus, Ishinaga fails to disclose that "an internal space of said container body is divided into a plurality of areas by

walls" such that " at least one of said areas stores ink and at least one of said areas is isolated from the stored ink", as recited in claim 14.

Furthermore, Ishinaga fails to disclose or suggest "only said at least one of said areas storing ink is provided with said ink supply port and said ink absorbing member", as recited in claim 14. Instead, Ishinaga describes that both the negative pressure generating receiving portion 101 and the ink containing portion 103 can store ink (Ishinaga: col. 13, lines 29-31 and lines 39-42).

For at least the exemplary reasons set forth above, Applicants overcome the rejection of claim 14 as allegedly being anticipated by Shinada.

Claims 14-16

Claims 14-16 stand rejected under § 102(e) as allegedly being anticipated by Shinada.

A. Claims 14 and 15

The Examiner relies in part on Fig. 15(a) of Shinada in alleging that Shinada discloses each and every feature of claim 14. Applicants respectfully disagree.

For example and not by way of limitation, claim 14 recites that "an internal space of said container body is divided into a plurality of areas by walls", "at least one of said areas stores ink and at least one of said areas is isolated from the stored ink", and "only said at least one of said areas storing ink is provided with said ink supply port and said ink absorbing member". The Examiner alleges that Fig. 15(a) of Shinada discloses the features of claim 14.

Similar to Ishinaga discussed above, Shinada illustrates an ink cartridge divided by a center partition wall 510 into a foam chamber 511 and an ink chamber 512 (Shinada: Fig. 15(a)).

However, these two portions are in direct communication with one another via communicating hole 519, formed in the center partition wall 510 (Shinada: Fig. 15(a)). Thus, Shinada fails to disclose that "an internal space of said container body is divided into a plurality of areas by walls", as recited in claim 14.

Furthermore, Shinada fails to disclose or suggest that "at least one of said areas stores ink and at least one of said areas is isolated from the stored ink" and that "only said at least one of said areas storing ink is provided with said ink supply port and said ink absorbing member", as recited in claim 14. Instead, Shinada describes that both the foam chamber 511 and the ink chamber 512 can store ink (Shinada: col. 13, lines 14-24).

For at least the exemplary reasons set forth above, Applicants overcome the rejection of claim 14 as allegedly being anticipated by Shinada. Consequently, claim 15 is not anticipated by Shinada at least by virtue of its dependency.

B. Claim 16

The Examiner relies in part on Figs. 15(b) and 16 of Shinada in alleging that Shinada discloses each and every feature of claim 16. Applicants respectfully disagree.

For example and not by way of limitation, claim 16 recites that "an internal space of said container body is divided into a first divided chamber and a second divided chamber by an area wall parallel to an ink supply ports arrangement direction, said first divided chamber being isolated from said second divided chamber by said area wall" and "said second divided chamber contains one of reserve ink and maintenance liquid".

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/698,143
Attorney Docket No. Q60866

Shinada illustrates an ink cartridge divided by partition walls 502 and 503. However, Shinada fails to disclose or suggest a second divided chamber containing one of reserve ink and maintenance liquid, wherein the second divided chamber is isolated from the first divided chamber.

For at least the exemplary reasons set forth above, Applicants overcome the rejection of claim 16 as allegedly being anticipated by Shinada.

Claims 19, 26, 30-33, 35, 37 and 45-46

Claims 19, 26, 30-33, 35, 37 and 45-46 stand rejected under § 102(e) as allegedly being anticipated by Matsuzaki.

A. Claim 19

The Examiner relies in part on Fig. 8 of Matsuzaki in alleging that Matsuzaki discloses each and every feature of claim 19. For example, the Examiner alleges that recessed portion 29' (for locating a memory device 30) discloses the concave portion recited in claim 19. Applicants amend claim 19 to recite "a concave portion formed on a side wall of said container body and extending from the bottom wall of said container body, wherein said concave portion protrudes into said ink chamber". Matsuzaki fails to disclose or suggest a concave portion extending from the bottom wall of the container body.

For at least the exemplary reasons set forth above, Applicants overcome the rejection of claim 19 as allegedly being anticipated by Matsuzaki.

B. Claim 26

The Examiner applies a rationale analogous to that discussed above for claim 19, in alleging that Matsuzaki discloses all of the features of claim 26. Applicants amend claim 26 to recite that "where the first side wall and the bottom wall join, a protruding portion is formed to protrude". Matsuzaki fails to disclose or suggest such a protruding portion.

For at least the exemplary reasons set forth above, Applicants overcome the rejection of claim 26 as allegedly being anticipated by Matsuzaki.

C. Claims 30-31 and 37

Claims 30-31 and 37 are not anticipated by Matsuzaki, at least by virtue of their dependency.

D. Claim 32

The Examiner relies in part on Fig. 8 of Matsuzaki in alleging that Matsuzaki discloses each and every feature of claim 32. In particular, the Examiner alleges that projections from the top wall in Fig. 8 of Matsuzaki disclose the spacer recited in claim 32. Claim 32 recites "a spacer inserted between said lid member and said ink absorbing member for pressing said ink absorbing member toward said ink supply port". Therefore, Matsuzaki fails to disclose or suggest use of a spacer inserted between the lid member and the ink absorbing member for pressing the ink absorbing member toward the ink supply port. To the contrary, Matsuzaki discloses a complicated/specialized lid structure for achieving this function.

For at least this reason, Applicants traverse the rejection of claim 32 as allegedly being anticipated by Matsuzaki.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/698,143
Attorney Docket No. Q60866

E. Claim 33

Applicants amend claim 33 to depend from claim 14. Matsuzaki fails to make up for the deficiencies of Ishinaga and Shinada detailed above. Consequently, claim 33 is not anticipated by Matsuzaki at least by virtue of its dependency.

F. Claim 35

Applicants amend claim 35 to depend from claim 19. As explained above, Matsuzaki fails to anticipate claim 19. Consequently, claim 35 is not anticipated by Matsuzaki at least by virtue of its dependency.

G. Claim 45

Applicants amend claim 45 to recite, *inter alia*, that "at least one of said areas stores ink and at least one of said areas is isolated from the stored ink" and "only said at least one of said areas storing ink is provided with said ink supply port". Matsuzaki fails to disclose or suggest these exemplary features of claim 45; therefore, claim 45 is not anticipated by Matsuzaki.

H. Claim 46

Applicants amend claim 46 to recite, *inter alia*, "a concave portion formed on a side wall of said container body and extending from the bottom wall of said container body, wherein said concave portion protrudes into said ink chamber". Matsuzaki fails to disclose or suggest these exemplary features of claim 46; therefore, claim 46 is not anticipated by Matsuzaki.

VI. Claim Rejections -- 35 U.S.C. § 103(a)

Claim 2 stands rejected under § 103(a) as allegedly being unpatentable over Takata in view of Miyazawa. The Examiner acknowledges that Takata fails to teach or suggest an ink

injecting port, as recited in claim 2. However, the Examiner alleges that Miyazawa makes up for this acknowledged deficiency of Takata. Applicants respectfully disagree.

Indeed, Takata teaches away from any the practice of injecting ink into the foam member (Takata: col. 2, lines 8-21). Furthermore, Takata describes a foam unit including a porous member that is impregnated with ink and then wrapped with a film member prior to insertion of the foam unit into a foam storing case (Takata: Abstract). Thus, replacement of ink is effected by replacing the foam unit with a new one as opposed to injecting additional ink therein (Takata: col. 2, lines 64-66).

Consequently, the Examiner has failed to provide a reasonable suggestion or motivation (absent impermissible hindsight) as to why one of ordinary skill in the art would modify Takata to include an ink injecting port. Therefore, the Examiner's conclusory statement that "it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide ... Takata with an ink injecting port ... for the purpose of filling ink" is flawed. As discussed above, since the replaceable foam unit of Takata is pre-impregnated with ink prior to insertion, there would be no need to fill ink. As discussed above, Takata describes simply replacing the used foam unit.

VII. Claim Objection

The Examiner objects to claim 16 due to an informality. Applicants amend claim 16, thereby overcoming the Examiner's objection. Consequently, Applicants respectfully request that the Examiner withdraw his objection to claim 16.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/698,143
Attorney Docket No. Q60866

VIII. New Claims 47-50

Applicants add new claims 47-50 to obtain a more varied scope of protection.

IX. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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PATENT TRADEMARK OFFICE

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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

14. (Twice Amended) An ink cartridge for use in an ink jet recording apparatus comprising:

a container body having an ink absorbing member for absorbing ink in an ink chamber;

an ink supply port which communicates said ink chamber to a recording head;

wherein an internal space of said container body is divided into a plurality of areas by walls,~~and~~

wherein at least one of said areas stores ink and at least another one of said areas is isolated from and does not store the ink, and

wherein only said at least one of said areas ~~stores~~ storing ink and is provided with said ink supply port and said ink absorbing member.

16. (Twice Amended) An ink cartridge for use in an ink jet recording apparatus, comprising:

a container body having an ink absorbing member for absorbing ink in an ink chamber;

ink supply ports which communicate said ink chamber to a recording head;

wherein an internal space of said container body is divided into a first divided chamber and a second divided chamber by an area wall parallel to an ink supply ports arrangement

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/698,143
Attorney Docket No. Q60866

direction, said first divided chamber being isolated from said second divided chamber by said area wall,

wherein said first divided chamber is further divided into areas by chamber walls perpendicular to said area wall, and each of said areas is provided with one of said ink supply ports,

wherein said second divided chamber contains one of reserve ink and maintenance liquid, and

wherein said reserve ink is supplied to said recording head ~~replenishes ink in at least one of said areas and or~~ said maintenance liquid is used during a maintenance operation of said ~~ink cartridge~~ recording head.

19. (Twice Amended) An ink cartridge for use in an ink jet recording apparatus, comprising:

a container body installed in a holder of the ink jet recording apparatus having an ink absorbing member for absorbing ink in an ink chamber;

an ink supply port which communicates said ink chamber to a recording head, wherein said ink supply port is formed on a bottom wall of said container body;

a concave portion formed on a side wall of said container body and extending from the bottom wall of said container body, wherein said concave portion protrudes to protrude into said ink chamber; and

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/698,143
Attorney Docket No. Q60866

a wall partitioning said ink chamber, wherein said wall is positioned inside of the side wall in contact with the holder.

26. (Twice Amended) An ink cartridge for use in an ink jet recording apparatus comprising:

a container body having a first side wall and a bottom wall, wherein where the first side wall and the bottom wall join, a protruding portion is formed to protrude ~~protrudes~~ into said container body; ~~to form a protruded portion and~~

an ink absorbing member for absorbing ink is housed in an ink chamber;

an ink supply port which communicates said ink chamber to a recording head, wherein said ink supply port is formed on the bottom wall; and

a lid member sealing an opening portion of said container body.

33. (Twice Amended) ~~An~~ The ink cartridge for use in an ink jet recording apparatus according to claim 14, comprising:

~~a container body having an ink absorbing member for absorbing ink in an ink chamber;~~

~~an ink supply port which communicates said ink chamber to a recording head;~~

~~the internal space of said container body divided into a plurality of areas by walls; and~~

wherein at least one of said areas storing ink is provided with said ink supply port, and a storage device storing information regarding an ink stored amount is attached so as to be readable by a recording apparatus.

35. (Twice Amended) ~~An~~The ink cartridge for use in an ink jet recording apparatus according to claim 19, comprising:

~~a container body installed in a holder of the ink jet recording apparatus having an ink absorbing member for absorbing ink in an ink chamber;~~

~~an ink supply port which communicates said ink chamber to a recording head; and~~

~~a wall partitioning said ink chamber positioned inside a side portion in contact with said holder;~~

wherein a storage device storing information regarding an ink stored amount is attached so as to be readable by a recording apparatus.

45. (Once Amended) An ink cartridge for use in an ink jet recording apparatus comprising:

a container body having an ink chamber;

an ink supply port which communicates said ink chamber to a recording head;

the internal space of said container body divided into a plurality of areas by walls; and

~~wherein at least one of said areas storing ink is provided with said ink supply port, and a~~
storage device storing information regarding an ink stored amount is attached so as to be readable by a recording apparatus,

wherein at least one of said areas stores ink and at least another one of said areas is isolated from and does not store the ink, and

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/698,143
Attorney Docket No. Q60866

wherein only said at least one of said areas storing ink is provided with said ink supply port.

46. (Once Amended) An ink cartridge for use in an ink jet recording apparatus comprising:

a container body installed in a holder of the ink jet recording apparatus having an ink chamber;

an ink supply port which communicates said ink chamber to a recording head; and
a concave portion formed on a side wall of said container body and extending from the bottom wall of said container body, wherein said concave portion protrudes into said ink chamber; and

a wall partitioning said ink chamber positioned inside a side portion in contact with said holder;

wherein a storage device storing information regarding an ink stored amount is attached so as to be readable by a recording apparatus.

Claims 47-50 are added as new claims.